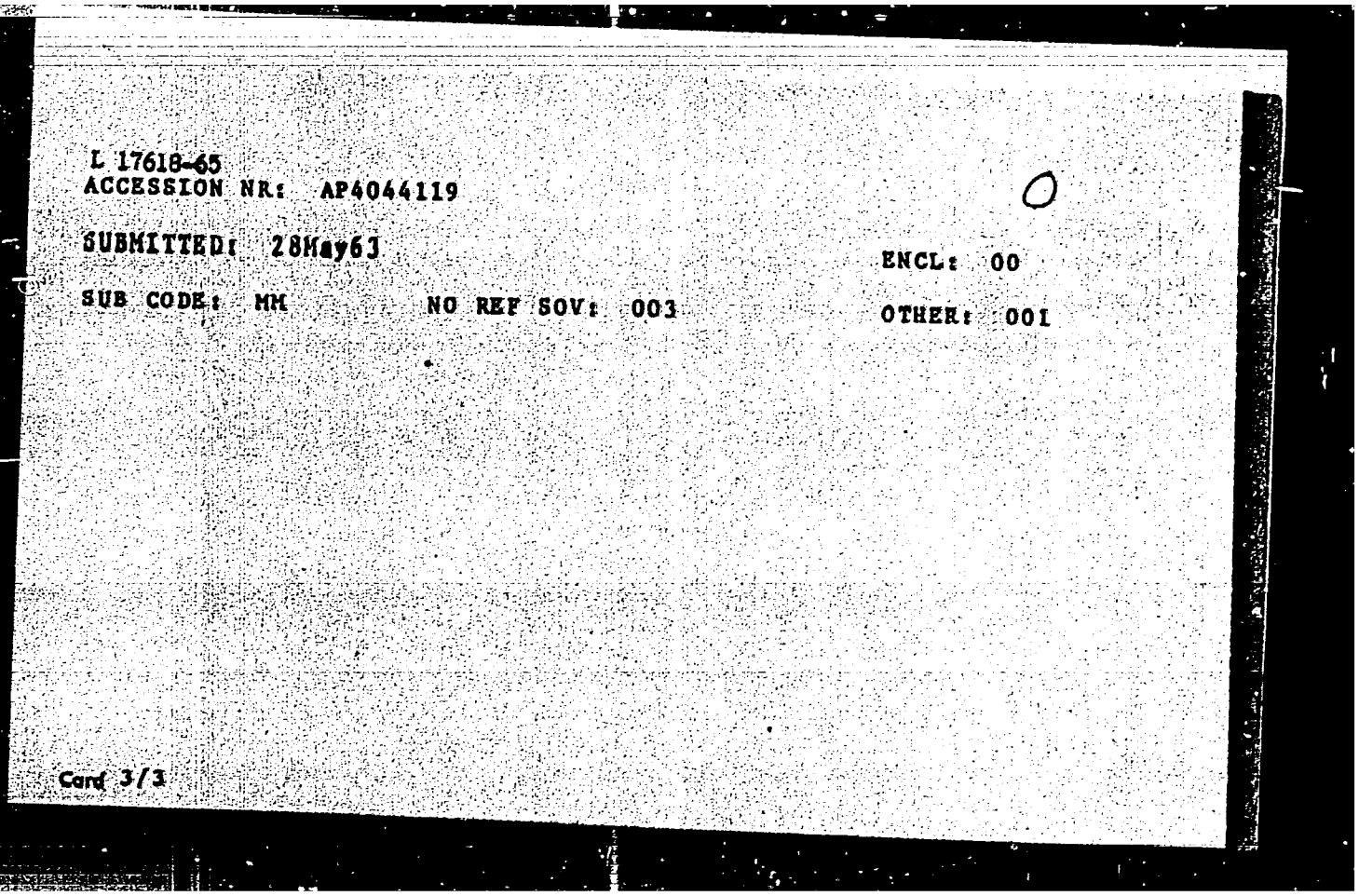


L 17618-65
ACCESSION NR: AP4044119

SUBMITTED: 28May63 ENCL: 00

SUB CODE: MM NO REF SOV: 003 OTHER: 001

Card 3/3

L 44732-65 EWT(m)/EWP(z)/EWA(c)/T/EWP(b)/EWP(t) Pad IJP(c) JD/HW/JG

ACCESSION NR: AP4048772 S/0126/64/018/004/0558/0563

27
26
B

AUTHOR: Bogachev, I. N.; Mints, R. I.; Malinov, L. S.

TITLE: Investigation of the cavitational stability of certain iron-menganese alloys

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 4, 1964, 558-563

TOPIC TAGS: alloy, cavitational stability, austenitic iron, manganese, chromium, nickel, phase transformation, alloy

ABSTRACT: The cavitational stability of several two-phase ($\gamma + \varepsilon$) and single-phase austenitic alloys of Fe + 20% Mn with chromium and nickel was investigated. It was found that the cavitational stability depends largely on the resistence to the microimpact by the solid solution, and this is determined by the alloying element (chromium or nickel). The initial structure of the alloy, and its capacity for phase transformation in the process of cavitation is of considerable importance. Orig. art. has: 6 figures and 2 tables.

Card 1/2

L 44732-65

ACCESSION NR: AP4048772

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Urals Polytechnic Institute)

SUBMITTED: 12Aug63 ENCL: 00 SUB CODE: MM

NR REF SOV: 008 OTHER: 000

Card 2/2

L 22900-65 EPF(n)-2/EPA(s)-2/EWT(m)/EPA(bb)-2/EWP(b)/EWA(d)/EWP(l)/EWP(t)
Pt-10/Pu-4/Pad IJP(c) WW/MJW/JD/HW/JG/WB
ACCESSION NR: AP5001245 S/0126/64/018/005/0752/0757

AUTHOR: Bogachev, I.N.; Litvinov, V.S.; Mints, R.I.; Nesterova, N.V.

TITLE: Some regularities in the destruction of metal surfaces subjected to the action of cavitation in molten lead

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 5, 1964, 752-757

TOPIC TAGS: cavitation, ultrasound, molten lead, nickel corrosion, copper corrosion, austenitic steel corrosion, cavitational erosion/steel 1Kh18N9T, steel 1Kh13

ABSTRACT: The erosion of surfaces of nickel, copper, austenitic alloys of iron with nickel and manganese, and steels 1Kh18N9T and 1Kh13, acted upon by cavitation in molten lead, was investigated by means of photomicrographs and by measuring the microhardness and hardening of the surfaces. A dynamic contact between the metals and alloys and the lead was achieved by using ultrasound. It was shown that the same laws govern cavitational erosion in liquid lead and in water. Surface attack, which is primarily mechanical in character, is localized in isolated microvolumes of the surface. A relationship was observed between the hardening of the metal during the cavitational

Card 1/2

L 22900-65
ACCESSION NR: AP5001245

influence in the melt and its strength. It is concluded that pronounced anticorrosive properties of a material cannot be used as a criterion of its resistance to cavitation in water or in melts. Orig. art. has: 5 figures.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural'sk polytechnical institute)

SUBMITTED: 27May64 ENCL: 00 SUB CODE: MM

NO REF SOV: 007 OTHER: 002

Card 2/2

L 9399-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b)/EWA(h) IJP(c) JD

ACC NR: AP5026782 SOURCE CODE: UR/0286/65/000/017/0069/0069

57

B

INVENTOR: Bogachev, I. N.; Mints, R. I.; Petukhova, T. M.

ORG: none

TITLE: Bronze. Class 40, No. 174365

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 69

TOPIC TAGS: copper alloy, aluminum containing alloy, nickel containing alloy, cobalt containing alloy, manganese containing alloy, cavitation, bronze

ABSTRACT: This Author Certificate introduces a copper alloy with increased cavitation resistance containing 12.5—14.5% aluminum, 1—6% nickel, 1—4% cobalt, and 1—3% manganese. [AZ]

SUB CODE: 11 / SUBM DATE: 20Mar63/ ATD PRESS: 4153

Card 1/1 nde UDC: 669.35'71'24'25'74

(N) L 12918-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD

ACC NR: AP6000998 SOURCE CODE: UR/0286/65/000/022/0063/0063

AUTHORS: Bogachev, I. N.; Mints, R. I.; Petukhova, T. M.

36
B

ORG: none

TITLE: Bronze. Class 40, No. 176426

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 63

TOPIC TAGS: bronze, aluminum, nickel, cobalt, manganese, copper

ABSTRACT: This Author Certificate introduces a bronze containing aluminum, nickel, and manganese. To increase its cavitation resistance, the bronze has the following chemical composition (in %): aluminum - 12.5—14.5; nickel - 1—6; cobalt - 1—4; manganese - 1—3; copper - remainder.

SUB CODE: 11/ SUBM DATE: 20Mar63

Card 1/1 HW UDC: 669.018.15

KORTOV, V.S.; MINTS, R.I.

Exoelectronic emission as a method of studying deformed metal surfaces. Fiz. met. i metalloved. 19 no.6:876-881 Je '65. (MIRA 18:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

L 32973-66 EWT(m)/EWP(k)/T/EWP(t)/ETI IJP(c) JD/HW/NB

ACC NR: AP6017519 (N) SOURCE CODE: UR/0148/66/000/001/0132/0135

59
55
4

AUTHOR: Versler, Yu. G.; Litvinov, V. S.; Mints, R. I.

ORG: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut)

TITLE: Stability and strengthening on nickel base alloys under exposure to microcavitation

SOURCE: IVUZ. Chernaya metallurgiya, no. 1, 1966, 132-135

TOPIC TAGS: nickel alloy, precipitation hardening, cavitation, hardness, plastic metallographic examination

ABSTRACT: The industrial alloys EI437 and EI867 (both of which are [illegible] base alloys) were subjected to microcavitation in an impact erosion [illegible] sequently tested for surface hardness and weight loss. The aging [illegible] the alloys before and after exposure are given. Surface hardnesses were [illegible] function of testing time for different [illegible] and 50 hrs. In all cases, the plastic [illegible] in strain hardening; maximum hardness was achieved after [illegible] alloy EI867 achieved the highest hardness for all [illegible] rate of strain hardening (55 to 65%) in the as-quenched condition. [illegible] set in after about 5 to 7 hrs of testing and after the weight [illegible]

UDC: 669.24:620.[illegible]

Card 1/2

L 32973-66

ACC NR: AP6017519

able (10 to 14 hrs). The weight losses for the aged [illegible] those for K36 and Inhibit 9T. The stability under [illegible] parameter $1/\overline{\Delta P}_{gr}$, where $\overline{\Delta P}_{gr}$ was the average weight [illegible] EI867 was twice that of EI437 for test[illegible] stability curves reached a maximum. A metallographic [illegible] stages of cavitation damage and micrographs of plastic deformat[illegible] microcavitation were compared. Surface pitting and scaling were [illegible] tial stages of exposure and the amount increased with time. Sl[illegible] scattered for microcavitation deformation when compared with the [illegible] observed in compression. The general kinetics and characterist[illegible] damage were very similar to Fe-Ni and Co-Ni alloys. Alloying and treatment [illegible] ing the nickel base alloys served only to prolong the incubation period, after which the destruction of the alloy proceeded very rapidly. One of the primary factors determining microcavitation stability was the nature of the solid solution itself. Orig. art. has: 5 figures, 1 table.

SUB CODE: 11/ SUBM DATE: 03May63/ ORIG REF: 002

Card 2/2

L 46933-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6015498 SOURCE CODE: UR/0181/66/008/005/1627/1628

49
B

AUTHOR: Kryuk, V. I.; Mints, R. I.; Kortov, V. S.

ORG: Ural Polytechnic Institute im. S. M. Kirov, Sverdlovsk (Ural'skiy politechnicheskiy institut)

27 27

TITLE: Exoelectronic emission from ground Ge and Si surfaces

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1627-1628

TOPIC TAGS: electron emission, germanium, silicon, crystal surface

ABSTRACT: Exoelectronic emission (Kramer effect) from *n*-Ge and *n*-Si surfaces ground by emery was investigated. The electrons were registered by a secondary electronic multiplier in a 10^{-5} mm Hg vacuum. The pulses from the secondary electronic multiplier output were registered by a PST-100 scaler-printer. There is practically no emission from a nondeformed surface; the background level for all specimens is approximately the same and does not exceed 3-5% of the mean values of the emission current. Specimens treated with emery show an extensive emission which goes back to background level in approximately one hour. The emission of *n*-Ge is more intensive and has also a sharper drop than the *n*-Si emission. This essentially supports the findings of other investigators. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 03Dec65/ ORIG REF: 002/ OTH REF: 008

Card 1/1

ACC NR: AP6036438 SOURCE CODE: UR/0370/66/000/006/0068/0072

AUTHOR: Aleksandrov, V. L. (Sverdlovsk); Bogachev, I. N. (Sverdlovsk); Mints, R. I. (Sverdlovsk)

ORG: none

TITLE: Peculiarities in the behavior of austenitic steels under cyclic loading

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 68-72

TOPIC TAGS: [redacted], austenitic steel, cyclic load, cyclic stress, chromium steel, manganese steel, [redacted] nickel steel/30Kh10G10 steel, 1Kh18N9T steel

ABSTRACT: A study was made of the behavior of chrome manganese and chrome nickel austenitic steels under cyclic loading. The study showed that 30Kh10G10 chromium manganese austenitic steel has a much greater resistance to cyclic loading than 1Kh18N9T chromium nickel austenitic steel, and that this difference is due to the different nature of the structural transformations which take place in them during cyclic loading. 30Kh10G10 chromium manganese austenitic steel is unstable under cyclic loading and decomposes, forming a specific structure which

Card 1/2 UDC: 621.788

ACC NR: AP6036438

is apparently responsible for the steel's high cyclic strength and resistance. The chemical composition and martensite points of the steels used are given in a table in the original article. [Based on authors' abstract] [SP]

SUB CODE: 11/SUBM DATE: 14Jun65/ORIG REF: 004/

Card 2/2

ACC NR: AP7000657 SOURCE CODE: UR/0126/66/022/005/0737/0743

AUTHOR: Aleksandrov, V. L.; Bogachev, I. N.; Mints, R. I.

ORG: Ural Polytechnic Institute im. S. M. Kirov (Uralskiy politekhnicheskiy institut)

TITLE: Cyclic strength of austenitic steels

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 5, 1966, 737-743

TOPIC TAGS: austenitic steel, chromium manganese steel, chromium nickel steel, manganese steel, nickel steel, fatigue strength, cyclic strength

ABSTRACT: The behavior of several austenitic steels under the effect of cyclic loading has been investigated. 30Kh10G10, 07Kh10G8 and 1Kh17AG10 chromium-manganese steels, 68Kh7N7 and 1Kh7N7 chromium-nickel steels, G38 manganese steel, and 30 nickel steel specimens, 2 x 5 mm in cross section, austenized at 1100C for 1 hr and water quenched, were subjected to alternating bend tests at a frequency of 50hz. It was found that the damping ability of the metal structure is the most important factor affecting the service life of metal under conditions of high cyclic loads and resonance fatigue. Steels with unstable austenite have a higher cyclic strength than steels with stable austenite. The fatigue strength of the former is also higher than the static yield strength. Different types of austenite with the same stability have different strength and life service under cyclic loading. Chromium-manganese

UDC: 669.15-194:539.43

ACC NR: AP7000657

austenites have higher cyclic strength than chromium-nickel austenites. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 02Feb66/ ORIG REF: 011/ OTH REF: 001

Card 2/2

ACC NR: AT7001711 (N) SOURCE CODE: UR/2694/65/000/143/0015/0025

AUTHOR: Mints, R. I.; Kortov, V. S.

ORG: none

TITLE: Exoelectronic emission produced when the surface of austenitic steel is deformed by micro-impact

SOURCE: Sverdlovsk. Ural'skiy politekhnicheskiy institut. Trudy, no. 143, 1965. Atomnaya i molekulyarnaya fizika (Atomic and molecular physics), 15-25

TOPIC TAGS: electron emission, surface property, endurance test, metal deformation, austenitic steel

ABSTRACT: The authors first define the concept of micro-impact as a force applied for a short time, on the order of microseconds, on very small areas (of the order of 10^{-5} mm^2 or less), and point out the common features to a great variety of manifestations of such impacts (impact of a bullet, cavitation, bolt in a ball bearing, and others). In view of the lack of correlation between the macroscopic characteristics of the metal and its endurance to micro-impact, the authors analyze the action of the latter and estimate the surface strength of metal under such loading by starting from energy considerations of the deformation of the metal under contact loading. They then show that one suitable method for investigating the energy dissipation of microscopic volumes of metals under plastic deformation is the exoelectronic emission (the Krammer effect, J. Krammer, Der metallische Zustand, 1950). Reports are then pre-

Card 1/2

ACC NR: AT7001711

sented of tests of exoelectronic emission from a variety of nickel- and manganese-alloyed austenites and stainless steels. It is concluded that an investigation of the exoelectronic emission from deformed surface of austenitic steels makes it possible to determine the genetic influence of certain elements, particularly nickel, on their dissipated properties of microscopic properties of austenite. Accordingly, the endurance of austenitic alloys is determined primarily by the character and the nature of the solid solution. The exoelectronic emissivity of the surface of the metal indicates a general principle for selecting alloys that are capable of enduring microimpact loading. To this end it is necessary to choose metastable alloys which are hardened not only by plastic deformation of the initial structure, but also by phase transformations such as solid-solution decay. Orig. art. has: 8 figures.

SUB CODE: 20, 11/ SUBM DATE: 00/ ORIG REF: 011/ OTH REF: 008

Card 2/2

Mina, B. M. Investigation of the trajectories at infinity of three differential equations. [Pamyati Aleksandra Aleksandrovicha Andronova [In memory of Aleksandr Aleksandrovič Andronov]], pp. 499–534. Izdat. Akad. Nauk SSSR, Moscow, 1955. 36.40 rubles.

The author considers the qualitative behavior of the trajectories of the real differential system

1) $\dot{x}=P(x, y, z), \dot{y}=Q(x, y, z), \dot{z}=R(x, y, z),$

where P, Q, R are polynomials in Euclidean 3-space E^3. For the behavior near each of the isolated critical points, it is assumed that the system is "insensitive" or structurally stable. This means that the characteristic roots have nonzero real parts. Such critical points are classified as 1) node, 2) focus, 3) saddle, and 4) saddle-focus depending on whether 1) all roots real and of the same sign, 2) exactly one real root but all real parts of the same sign, 3) all roots real but not all of the same sign, 4) exactly one real root but real parts of roots not all of same sign, respectively.

To determine the global behavior of the solutions of 1) the author compactifies E^3 to the projective space P^3. Thus the system 1) is first transformed to an equivalent

Mimura, K. [10]

system in the unit ball B^3. Then, after a change of time scale near infinity, that is, near the surface S^2 of B^3, one obtains a differential system in the closed ball which is the same at antipodal points of the surface S^2.

The surface S^2 is the union of solution curves and one applies the Poincaré-Bendixson theory on S^2 to infer the behavior of the solution curves in the whole ball. For example, critical points or closed orbits on S^2 can be in the limit set of some solution lying in the interior of B^3. Also trajectories on S^2 whose limit sets consist of closed orbits (or closed contours), spatial saddle, or saddle-focus critical points can be contained in the limit sets of solutions lying interior to B^3. But a trajectory on S^2 one of whose limit points is a spatial node or focus cannot be contained in the limit set of a solution interior to B^3.

The author works out a number of examples, including all the linear equations, and draws the appropriate figures, to illustrate all these possibilities.

The author calls a system 1) absolutely unstable at infinity if no trajectory interior to B^3 has ω-limit points on the surface S^2. For certain systems of the form 1) the author gives necessary and sufficient conditions that the system should be absolutely unstable at infinity.

L. Markus (Princeton, N.J.).

2/2

MINTS, R. M.

1-FW

2

Mints, R. M. On the character of equilibrium of a system of three differential equations in the case when one of the roots of the characteristic equation equals zero. Dokl. Akad. Nauk SSSR (N.S.) 111 (1956), 535–537. (Russian)

An analytical system in three variables with an isolated singularity at the origin may be reduced to the form

$$\begin{aligned} \dot{x} &= a_1x + b_1y + X(x, y, z) \\ \dot{y} &= a_2x + b_2y + Y(x, y, z) \\ \dot{z} &= Z(x, y, z) \end{aligned}$$

where X, Y, Z are power series beginning with terms of degree at least two. It is assumed here that the characteristic roots λ_1, λ_2 of $\begin{Vmatrix} a_1 b_1 \\ a_2 b_2 \end{Vmatrix}$ are $\neq 0$. With Lyapunov one observes that the system $\dot{x}=\dot{y}=0$ has then a solution $x(z), y(z)$ holomorphic and zero at $z=0$. Set

$$f(z) = R_2(x(z), y(z), z) = Az^m + \cdots.$$

The author examines the various sign possibilities for λ_1, λ_2, together with the size and sign of Δ and the parity of m and describes in three theorems the local phase-portraits at the origin. There are only indications of proofs.

S. Lefschetz (Mexico City).

1/1 8mw

MINTS, R.M.

Topological equivalence of some equilibrium states of a system of three differential equations. Nauch. dokl. vys. skoly; fiz.-mat. nauki no.1:19-24 '58. (MIRA 12:3)

1.Gor'kovskiy issledovatel'skiy fiziko-tekhnicheskiy institut.
(Differential equations)

16(1)

AUTHOR: Mints, R.M.

TITLE: The Characteristic of Certain not Rough States of Equilibrium in the Tridimensional Space With the Aid of Rough States of Equilibrium of Closely Similar Systems (Kharakteristika nekotorykh negrubykh sostoyaniy ravnovesiya v trekhmernom prostranstve s pomoshch'yu grubykh sostoyaniy ravnovesiya blizkikh sistem)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1215-1218 (USSR)

ABSTRACT: The author considers the system

$$(1) \quad \frac{dx}{dt} = P(x,y,z), \quad \frac{dy}{dt} = Q(x,y,z), \quad \frac{dz}{dt} = R(x,y,z),$$

where the right sides are analytic and aliquant. The system is investigated with the method proposed by Gubar' [Ref 2] for systems of two equations. The author gives necessary and sufficient conditions that the state of equilibrium of (1) is rough in the sense of Andronov-Pontryagin [Ref 1] (the real parts of the roots of a certain characteristic equation of third degree have to be $\neq 0$). Besides (1) the author

Card 1/2

The Characteristic of Certain not Rough States of SOV/20-121-[illegible]
Equilibrium in the Tridimensional Space With the Aid of [illegible]
Equilibrium of Closely Similar Systems

considers a system varied by δ-additions of m-th rank (see Ref 2). He investigates the dependence of the topological types of the simplest not rough states of equilibrium of the system (1) on the number and kind of the rough states of equilibrium of the varied system. Altogether there are formulated 5 theorems without proof. The author thanks Ye.A. Leontovich-Andronova for [illegible] scientific guidance. There are 6 Soviet references.

ASSOCIATION: Issledovatel'skiy fiziko-tekhnicheskiy institut Gor'kovskogo gosudarstvennogo universiteta imeni N.I.Lobachevskogo (Physico-Technical Research Institute of the Gor'kiy State University imeni N.I.Lobachevskiy)

PRESENTED: October 13, 1958, by I.G.Petrovskiy, Academician

SUBMITTED: October 9, 1958

Card 2/2

16(1)

AUTHOR: Mints, R.M.

TITLE: Limit Cycle in the Three-Dimensional Space Wi[illegible]
Equation Different From Zero. (Predel nyy tsikl v [illegible]
prostranstve s odnim kharakteristicheskim pokazatelem, [illegible]
ot nulya)

PERIODICAL: Doklady Akademii nauk SSSR 1[illegible], V [illegible], No [illegible] SSSR

ABSTRACT: With the aid of classical arrangements f P [illegible]
investigates the behavior [illegible]
[illegible]

$$\iint [illegible] \psi \varphi [illegible]$$

where [illegible] ψ, φ, [illegible]
as well as the sign of a magnitude Δ_m [illegible] whether
$m = 2k$ or $m = 2k+1$. The proof of integral [illegible]
following properties is interesting: there exist [illegible]
surfaces through the periodic solution, where [illegible]

Card 1/2

Limit Cycle in the Three-Dimensional Space With
a Characteristic Exponent Different From Zero

of one surface for $t \to +\infty$ tend to the periodic solution and all integral curves of the other surface do so for $t \to -\infty$. All other solutions run in a finite distance of the periodic solution which in this case is a saddle-shaped limit cycle. The author thanks Ye.A.Leontovich-Andronova for rendering assistance.
There are 5 references, 3 of which are Soviet, 1 French, and 1 Italian.

ASSOCIATION: Issledovatel'skiy fiziko-tekhnicheskiy institut Gor'kovskogo gosudarstvennogo universiteta imeni N.I.Lobachevskogo (Physical-Technical Research Institute of the Gor'kiy State University imeni N.I.Lobachevskiy)

PRESENTED: October 13, 1956, by I.G.Petrovskiy, Academician

SUBMITTED: October 9, 1956

Card 2/2

MINTS, R. M., Cand Phys-Math Sci -- "Study of certain fundamental types of complex ~~conditions~~ states of equilibrium in a three-dimensional space." Mos, Pub House of Mos U, 1961. (Mos Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov) (KL, 8-61, 227)

MINTS, R.M.

Character of certain types of complex equilibrium states in n-dimensional space. Dokl. AN SSSR 147 no.1:31-33 N '62. (MIRA 15:11)

1. Issledovatel'skiy fiziko-tekhnicheskiy institut Gor'kovskogo gosudarstvennogo universiteta. Predstavleno akademikom I.G. Petrovskim.
(Differential equations)
(Spaces, Generalized)

ACCESSION NR: AP4014373 S/0039/64/063/002/0169/0214

AUTHOR: Mints, R. M. (Gor'kiy)

TITLE: Some basic types of complex equilibrium states in three dimensional space

SOURCE: Matem. sbornik, v. 63, no. 2, 1964, 169-214

TOPIC TAGS: equilibrium, three dimensional space, autonomous differential equation, characteristic equation, simple equilibrium, complex equilibrium

ABSTRACT: The author studies certain basic types of complex states of equilibrium for a system of three autonomous differential equations with analytic right parts or with right parts which have a finite number of partial derivatives. A state of equilibrium where the real parts of all the roots of the characteristic equation are non-zero is called simple; otherwise it is called complex. The topological nature of a state of equilibrium in a space of three and more dimensions has been thoroughly studied only in the case of a simple state of equilibrium, by I. G. Petrovskiy (Über das Verhalten der Integralkurven eines System gewöhnlicher Differentialgleichungen in der Nähe eines singulären Punktes, Matem. sb., 41 (1934)

Card 1/3

ACCESSION NR: AP4014373

107-156). The author investigates complex states of equilibrium where one of the roots of the characteristic equation is equal to zero, and the real parts of the two other roots are non-zero. He establishes all the possible topological structures of complex states of equilibrium of the given type in the general case. He finds a necessary and sufficient condition for crudeness of a state of equilibrium in three dimensional space and gives criteria making it possible to distinguish the obtained types of complex states of equilibrium, according to the number and types of crude states of equilibrium of close systems. Section titles are:

I. Behavior of trajectories in a neighborhood of a state of equilibrium, when one of the roots of the characteristic equation is equal to zero and the real parts of the two other roots are non-zero.
   1. The roots λ_1 and λ_2 of the characteristic equation are real, distinct, and have identical signs.
   2. The roots λ_1 and λ_2 of the characteristic equation are real and of opposite sign.
   3. The roots λ_1 and λ_2 of the characteristic equation are complex conjugate.
   4. The characteristic equation has a multiple root.
   5. Topological equivalence of complex states of equilibrium.

Card 2/3

ACCESSION NR: AP4014373

II. Characteristics of types of non-crude states of equilibrium according to the number and nature of crude states of equilibrium of close systems.
1. Conditions for crudeness of a state of equilibrium.
2. Characteristics of the given non-crude states of equilibrium according to the number and nature of crude ones on which they break up with small admixtures.

Application.

"The author expresses his unbounded gratitude to his scientific instructor Ye. A. Leontovich-Andronova for her valuable instructions and great help with this work, and also to I. I. Gordon for his essential remarks." Orig. art. has: 1 table, 10 figures and 46 formulas.

ASSOCIATION: none

SUBMITTED: 30Dec61 DATE ACQ: 05Mar64 ENCL: 00

SUB CODE: MM NO REF SOV: 018 OTHER: 004

Card 3/3

BOL'SHAKOV, V.M., [illegible], Ye.S. [deceased]; MINTS, R.P., [illegible]

[illegible] radiolit. [illegible] '65. [illegible]

[illegible]

[illegible] F. S.

17[illegible]. [illegible] F. S. The role of solitary cerebral tubercles in the development of tuberculous meningitis in children. Their aetiology and [illegible] later, Rassw 19[illegible], 1[illegible] (21-2[illegible]) Tables 1 Ill[illegible]. 2

The author has performed 3[illegible] autopsies on children, aged from tw[illegible] to 12 years. Clinically the cases were characterized as tuberculous [illegible] or undetermined meningo-encephalitis; on macroscopic or microscopic examination solitary tubercles were found. Thirty-six of these children had signs of haematogenous dissemination. Three had only a primary complex. The tubercles varied in size from 0.2 to [illegible] cm. and in number from 1 to [illegible]. Their localization was variable. The author insists on the importance of the vascular reaction and on the frequent perivascular localization of the process. He describes the different histological stages from the non-specific inflammation to the typical caseous necrosis. In 12 cases the tubercles showed histological characteristics which proved their occurrence as secondary to the meningeal process. In five cases there was a miliary dissemination simultaneously in the meninges and the cerebral tissue. In 22 cases the tubercles appeared primary i.e. older than the meningeal lesions. But the importance of the vascular reaction and the fact that 20 of these children had a general miliary dissemination in the other organs, leads to the conclusion that meningitis arises as a rule through a haematogenic process, and not by propagation from a tubercle.

Masse - Paris (V,)

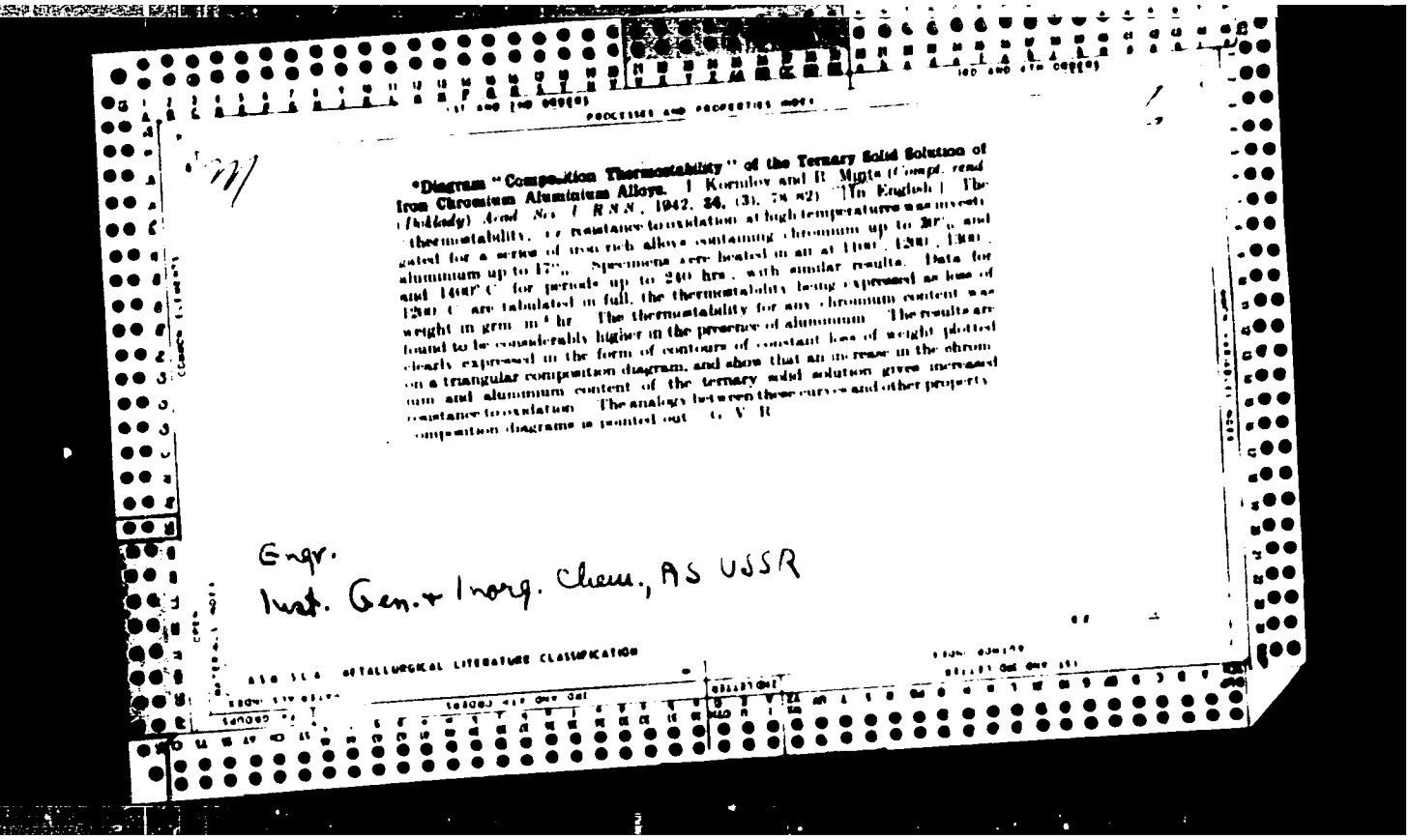
So. NEUROLOGY & PSYCHIATRY Section VIII Vol. 31 Jan-Jun 1[illegible] Excerpta Medica

SHCHEGLOVA, F.E., dotsent; MINTS, R.S., kandidat meditsinskikh nauk

Contribution to the etiology of deafness in early childhood. Vest. oto-rin. 16 no.6:10-15 N-D '54. (MLRA 8:1)

1. Iz detskogo surgologopedicheskogo kabineta (zav.-dotsent F.E.Shcheglova) Leningrad

(HEARING DISORDERS, in infant and child
deafness in inf., etiol.)



"Diagram "Composition Thermostability" of the Ternary Solid Solution of Iron Chromium Aluminium Alloys. I Kornilov and R Mints (*Compt. rend (Doklady) Acad Sci URSS*, 1942, 34, (3), 78-82) [In English] The thermostability, or resistance to oxidation at high temperatures was investigated for a series of iron rich alloys containing chromium up to 30% and aluminium up to 17%. Specimens were heated in air at 1100°, 1200°, 1300° and 1400° C for periods up to 240 hrs, with similar results. Data for 1200° C are tabulated in full, the thermostability being expressed as loss of weight in gram in 4 hr. The thermostability for any chromium content was found to be considerably higher in the presence of aluminium. The results are clearly expressed in the form of contours of constant loss of weight plotted on a triangular composition diagram, and show that an increase in the chromium and aluminium content of the ternary solid solution gives increased resistance to oxidation. The analogy between these curves and other property composition diagrams is pointed out. G. V. R

Engr.
Inst. Gen. + Inorg. Chem., AS USSR

METALLURGICAL LITERATURE CLASSIFICATION

MINTS, R. S.

"Experiments in the Application of the New Iron-Chromium-Aluminum Alloys for Heating Elements," Elektrichestvo, 67, No.2, 1947

Inst. Gen. & Inorg. Chem., AS USSR

KORNILOV, I.I.; MINTS, R.S.

Structural diagram of the system Cr - NiAl. Izv.Sekt.fiz.-khim.anal. 22:111-116 '53. (MLRA 7:5)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR. (Chromium- nickel - aluminum alloys)

MINTS, R. S.

USSR/Metallurgy - Nonferrous Alloys 1 Feb 53
Heat Resistance

"Composition Versus Heat Resistance Diagram of the Ni-Al System," I. I. Kornilov, R. S. Mints, S. D. Onopriyenko, Inst of General and Inorg Chem, Acad Sci USSR

DAN SSSR, Vol 88, No 4, pp 683-685

Studies dependence of heat resistance on compn of Ni-Al alloys up to 30% Al by wt. Establishes that heat resistance of solid solns of Al in Ni increases with increase in Al concn and reaches its max in region of complete satn of solid solns. Alloy

249T60

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corresponding to Ni_3Al is characterized by lowest heat resistance; solid solns based on Ni_3Al, rich with Ni or Al, have heat resistance higher than that of Ni_3Al. States that diagram of compn vs heat resistance permits detn of physicochem nature and boundaries of phase areas on Ni-Al constitution diagram. Presented by Acad G. G. Urazov 29 Nov 52.

249T60

MINTS, R. S.

USSR/Chemistry - Alloys 11 Feb 53

"The Nature of the Compound Ni_3Al," I. I. Kornilov, R. S. Mints

DAN SSSR, Vol 88, No 5, pp 829-832

Studied alloys of Ni-Al (up to 35% Al by wt) using methods of physicochemical analysis and constructing compn-property diagrams for elec resistance and thermal expansion up to 1,100°. On the isotherms for the coeff for linear expansion, the compd Ni_3Al exhibits a singular minimum, while Ni-Al shows only an insignificant effect. Ni_3Al has a lower coeff of linear expansion than either pure Ni

264T25

or solid solns of Al and Ni. Ni_3Al shows a singular point in all diagrams, including that of compn-heat stability. From the course of the isotherms of linear expansion, authors surmise the possibility of a conversion of Ni_3Al at about 600°. Presented by Acad G. G. Urazov 29 Nov 52.

MINTS, R. S.

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67

"Melting Diagram of the System Nickel–Chromium–NiAl. I. I. Kornilov and R. S. Mints (Izvest. Akad. Nauk S.S.S.R., [illegible], (6), [illegible] (In Russian)).—The melting diagram of the ternary system Ni–Cr–NiAl was prepared, starting with an investigation of the binary systems Ni–Cr, Ni–NiAl, and Cr–NiAl by the method of thermal analysis and microhardness detn. The liquidus surface of the system Ni–Cr–NiAl was then constructed with the aid of orthogonal projections of the liquidus lines of sections of const. content of 20, 30, 40, 50, and 55 wt.-% Cr; 20, 30, 40, 50, and 60 wt.-% Ni; 10, and 20 wt.-% NiAl upon the compn. triangle. It consisted of four fields of primary crystn., corresponding to the sepn. of the following phases: (i) α solid soln. of Ni and Al in Cr, (ii) β solid soln. of Ni and Cr in NiAl, (iii) γ solid soln. of Cr and Al in Ni, and (iv) γ′ solid soln. of Cr, Ni, and Al in Ni_3Al. The lines of secondary crystn. and of phase structure and the behaviour under heat-treatment of several Ni–Cr–NiAl alloys of intermediate compn. were also determined. It was concluded that the peritectic reaction giving rise to Ni_3Al takes place between the liquid and the β phase of NiAl (cf. Taylor and Floyd, *J. Inst. Metals*, 1952–53, 81, 451; *M.A.*, 20, 691) and not between the liquid and the Ni γ solid soln. (cf. Alexander and Vaughan, *ibid.*, 1937, 61, 247; *M.A.*, 4, 614).—S. K. L.

Evaluation B-80678

MINTS, R. S.

3

"The Compound Ni_2Cr," by I. I. Kornilov and R. S. Mints (Doklady Akad. Nauk S.S.S.R., 1954, 96, (3), [illegible] (In Russian). Alloys of Ni containing 0.45 to 46.% Cr were examined, before and after annealing at different temps., by metallographic and X-ray analysis, and by dilatometric and elect.-resistance detn. (cf. Taylor and Hinton, *J. Inst. Metals*, 1952-53, 81, 169; *M.A.*, 20, 337). The sp. elect. resistance of the specimens annealed at 460° C. was lower than the resistance of the quenched specimens, the difference increasing with the time of annealing. A sharp min. on the sp. elect. resistance/at.-% Cr curve corresponding to 24 at.-% Cr indicated the formation of the Ni_2Cr compound. A similar sharply defined min. was discovered on the linear expansion coeff./at.-% Cr diagram. X-ray analysis showed a decrease of the cell const. a after annealing; for the alloy contg. 24 at.-% Cr, a = 3·533 and 3·524 kX for the quenched and annealed specimens, resp.—S. K. L.

Evaluation B-80678

KORNILOV, I.I.; MINTS, R.S.

Fusibility diagram for the system: Ni — Cr — NiAl. Izv.Sekt.fiz.-khim. anal. 26:62-67 '55. (MLRA 8:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.
(Nickel-chromium-aluminum alloys)

DUBROVSKIY, Artem Petrovich, inzh.; TSUKERMAN, Samariyn Aronovich, kand. tekhn. nauk; KORNILOV, Ivan Ivanovich; MINTS, Rakhil' Samuilovna; SHOBIK, L.Ye., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[Laboratory press for hot compaction. Vacuum dilatometer for the study of metal powder sintering processes] Laboratornyi press dlia goriachego pressovaniia. Vakuumnyi dilatometr dlia izucheniia protsessa spekaniia metallicheskikh poroshkov. [By]I.I.Kornilov i R.S.Mints. Moskva, Filial Vses. inta nauchn. i tekhn.informatsii, 1958. 9 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 4. No.M-58-64/1) (MIRA 16:3)
(Powder metallurgy--Equipment and supplies)

3 39/47

AUTHORS: Kornilov, I. I., Mints R. S.

TITLE: An Investigation of the System Ni Cr NiAl (Issledovaniye sistemy Ni-Cr-NiAl)

PERIODICAL: Zhurnal Neorganicheskoy Khimii 1958 Vol 3, Nr 3 pp.694-707 (USSR)

ABSTRACT: The system Ni Cr NiAl was investigated on the basis of the examination of the binary systems Ni NiAl Ni Cr and Cr NiAl In the system Ni NiAl solid solutions and the compound Ni_3Al form. An increase of the aluminum content increases the hardness. With the entrance of the compound Ni_3Al the hardness of the alloy is diminished. Solid solutions and Ni_3Cr occur in the system Ni Cr as well. In the system Cr NiAl the eutectic lies at 1445°C and the chromium content is 38 %. By addition of NiAl to chromium the hardness and the electric resistance of the alloys in the domain of solid solutions increase. Alloys containing 80 - 90 % chromium have the highest density. The alloys with 80 % chromium have a hardness like steel. The present investiations comprise the investigations of the proper

Card 1/3

An Investigation of the System Ni Cr NiAl

ties of the alloys in the domain of solid solutions in the ternary system Ni Cr NiAl. With the produced alloys the following determinations were performed: microstructure hardness electric resistance, temperature coefficient of the electric resistance after the hardening at 700°C coefficient of thermal expansion resistance to heat. In the section with 5 - 10 % chromium phases of homogeneous solid solutions and the compound Ni_3Al γ' occur by an increase of the NiAl content. On further addition of NiAl the phase γ' and at the end an homogeneous solid solution β' occur. The hardness of the alloys in the system Ni Cr NiAl with 5, 10, 15 and 20 % chromium was investigated. The hardness in the alloys with 5 % chromium increases with increasing NiAl content to 25 %, passes a minimum at 75 % NiAl and then further increases. The electric resistance and the temperature coefficient of the electric resistance were determined at 25 and 100°C. The entrance of the phase Ni_3Al was not only determined by the analyses of hardness and microstructure. There are 11 figures, 2 tables, and 14 references, 9 of which are Soviet.

Card 2/3

3-28/47

An Investigation of the System Ni-Cr-NiAl

SUBMITTED: June 25, 1957

Card 3/3

7(0)
AUTHOR Mints, R. S.

TITLE Dilatometers for Metals and Alloys (Dilatometry of metallov i splavov)

PERIODICAL Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12, pp 1499 - 1505 (USSR)

ABSTRACT Dilatometers are described which are easily produced. The D_1 dilatometer works without vacuum and is used for investigations of the thermal expansion of heat-resistant metals. The D_2 vacuum dilatometer is used for metals which are not heat-resistant to heat, and in the baking of metalloceramic samples. The D_3 vacuum dilatometer is used in the baking kinetics of metalloceramics in the case of melting and sintering. The development of the D_2 and D_3 was carried out by Engineer B. A. Osanov. In all the types of dilatometers the expansion of the sample is registered by a quartz plug on a dial gauge to exactly 1 μ. The D_1 dilatometer has the special construction and was used in studying the transformations in the range of the iron-chromium system

Card 1/2

Dilatometer for metals and alloys

SOV/32-24-12-43/45

(Ref 3). The D_2 dilatometer (Fig 1) was used in working samples which are stable in air. A vacuum of 10^{-3} mm Hg was achieved on this apparatus using a preliminary vacuum diffusion pump. To assure the maintenance of a constant temperature the heating body of the dilatometer was connected to a EVP-09 potentiometer. The D_3 dilatometer (Fig 2) consists of a cylinder provided with a cooler. Pressed metallic powders (Ni, Cu, Mo and Ti) were investigated up to 1100 - 1300° on the dilatometers described. A dilatometric curve is given (Fig 3) which was obtained by cyclically heating nickel-carbonyl samples up to 1100°. The author thanks [illegible] for [illegible], 5 of which are Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute for Metallurgy imeni A. A. Baykov of the Academy of Sciences, USSR)

Card 2/2

AUTHOR: Mints, R. S. 20-3-36/59

TITLE: A Study of the Titanium Caking Kinetics by a Dilatometric Method (Issledovaniye kinetiki spekaniya titana dilatometricheskim metodom).

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 3, pp. 543-545 (USSR)

ABSTRACT: These kinetics were investigated in the vacuum dilatometer constructed specially for this purpose. Titanium powder pressed by equilateral pressure of 800 kg/cm^2 was heated several times up to 1100° in the dilatometer and then cooled to 200-300°. The longitudinal change observed on this occasion we measured on an indicator with a division of 1μ . Fig. 1 shows the dilatometric curve of cyclic sintering of titanium. From its shape a certain prolongation of the sample at the beginning of heating can be observed which gradually disappears and is followed by shrinkage. The higher the sample was heated the stronger was the shrinkage. The prolongation of the sample is due to thermal distension of the particles and to the separation of gas from the closed pores. These phenomena were known from several works (ref. 1-7). The purpose of the present work was to study the influence

Card 1/3

A Study of the Titanium Caking Kinetice by a Dilatometric Method 20-3-36/59

of repeated cyclic heating on the kinetics as mentioned in the title. It can be seen from the mentioned curve (fig. 1) that the shrinking occurring during the heating continues for some time during cooling. It becomes more slowly with the drop of temperature and finally comes to a half. Simultaneously thermal contraction takes place. Thus, the curve results from two processes: thermal distension and contraction, and shrinkage. The temperature at which shrinkage noticeably surpasses thermal distension rises with increasing ordinal number of the cycle of heating. The absolute degree of shrinking becomes smaller with every further cycle of heating and approaches asymptotically zero. After heating and cooling the titanium sample 9 times it had a specific weight of 4,2, at which, as is known, it can be forged. 10 thermo-cycles (heating up to 1100°, cooling to 600-700°) do not lead to shrinkage. Specific weight first increased rapidly then more slowly (fig. 2). The micro.structure of the sample after 1,6 and 10 thermo-cycles is described (fig. 3,4). The above experiments have to

Card 2/3

A Study of the Titanium Caking Kinetics by a Dilatometric Method 20-3-36/39

be regarded as provisional. They indicate to the usefulness of investigations of methods of acceleration of sintering process by replacing isothermal sintering by cyclic sintering.
There are 4 figures, and 7 references, 4 of which are Slavic.

ASSOCIATION: Institute for Metallurgy imeni A. A. Baykov, AN USSR (Institut metallurgii im. A. A. Baykova Akademii nauk SSSR)

PRESENTED: June 26, 1957, by I. P. Bardin, Academician

SUBMITTED: June 20, 1957

AVAILABLE: Library of Congress

Card 3/3

MINTS, R.S.

PHASE I BOOK EXPLOITATION SOV/3559

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, t. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1959. 425 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klimov; Tech. Ed.: I.F. Kuz'min; Editorial Board: I.P. Bardin, Academician, G.V. Kurdyumov, Academician, B.V. Ageyev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oding, I.M. Pavlov, and I.F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

COVERAGE: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and W on the heat-resisting properties of various alloys are studied. Deformability and workability of certain metals as related to the thermal conditions are the object of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of ceramic coatings on metal surfaces by means of electrophoresis are examined. One paper describes the apparatus and methods used for growing monocrystals of metals. Boron-base metals are critically examined and evaluated. Results are given of studies of interatomic bonds and the behavior of atoms in metal. Tests of turbine and compressor blades are described. No personalities are mentioned. References accompany most of the articles.

5(2)
AUTHORS: Kornilov, I. I., Mints, R. S. SOV/78-4-9-39/44

TITLE: A Nickel-aluminum Alloy With a Low Linear Expansion Coefficient

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2169-2171 (USSR)

ABSTRACT: In connection with the investigation of the phase diagram of the ternary system Ni - Cr - NiAl (Refs 1-4) an alloy with a low expansion coefficient was found in the system Ni - Al . In order to determine the composition of this alloy the hardness (Fig 1), microstructure, electric conductivity and its temperature coefficient (Fig 2), as well as the linear expansion coefficient (Fig 3) were determined for different Ni-Al alloys. The results showed that the alloy with the lowest linear expansion coefficient corresponds to the corpound Ni_3Al. There are 3 figures and 8 references, 6 of which are Soviet.

SUBMITTED: January 12, 1959

Card 1/1

SOV/20-124-6-[illegible]/55

18(5)
AUTHOR: Mints, R. S.

TITLE: Investigation of the Sintering of Nickel, Copper, and Molybdenum by the Dilatometric Method (Issledovaniye kinetiki spekaniya nikelya, medi i molibdena dilatometricheskim metodom)

PERIODICAL: Doklady Akademii nauk SSSR 1959, Vol 124, Nr 6, pp 1240 - 1242 (USSR)

ABSTRACT: The present paper gives a report on the results obtained by the dilatometric investigation of nickel-, copper-, and molybdenum powders. According to the results obtained the possibility of replacing isothermal sintering by cyclic sintering, which was found in the case of titanium, may be extended also to nickel, copper, molybdenum, and possibly also to several other pure metals. The investigation was carried out in a vacuum dilatometer, which is destined for the investigation of the kinetics of the sintering of metal powders. The first diagram shows the dilatometric curve for the cyclic sintering of pressed carbonyl-nickel-powder. The production and pre-treatment of samples is discussed in short. Like in the case of titanium, the dilatometric curve rises somewhat during the first stages of heating,

Card 1/4

which means that the sample becomes larger as a result of the thermal expansions of the particles and the liberation of gas from the closed pores. At ~ 400° the slope of the dilatometric curve rises the most. With a further rise of temperature the sample begins to shrink. This shrinking process which begins already during heating continues also during cooling. With a decrease of temperature, the rate of shrinking gradually decreases and tends towards zero. During cooling thermal compression occurs simultaneously. If heating is repeated (and also in the case of all following heating processes) up to a certain temperature, thermal dilatation occurs, which is accompanied by further shrinking during sintering. The dilatometric curve is the resulting curve of two processes: Thermal expansion or compression, and shrinkage. The course of the dilatometric curve is discussed in short. The dilatometric curve of the cyclic sintering of nickel is determined by a somewhat irregular course of the curves of heating and cooling in the temperature range of from 400 to 500°. This irregularity is probably due to the magnetic transformation of nickel. The second diagram shows the dependence of the intensity of shrinkage of the sample on the ordinal

Investigation of the Sintering of Nickel, Copper, and Molybdenum by the Dilatometric Method SOV/20-124-6-16/55

number of the cycles. The absolute amount of shrinkage in the course of a single cycle (heating to 1000° and cooling down to room temperature) becomes less from cycle to cycle and tends asymptotically towards zero. The dilatometric curves of the cyclic sintering of copper and molybdenum were recorded on cylindrical samples (diameter 7 mm ; height 15 mm). The production of these samples is described in short. Also in accordance with these dilatometric curves the sample becomes larger in the course of a preliminary treatment of pressing during the first stage of heating, and this dilatation gradually goes over to shrinking. With an increasing number of the cycles of sintering shrinkage increases; the absolute intensity of shrinkage during an individual cycle diminishes with an increase of the number of cycles and tends asymptotically towards zero. The present investigation discovered the possibility of sintering powders of nickel, copper, and molybdenum (the same applies also to titanium) by repeated heating and cooling. Thus, the isothermal process of sintering may be replaced by the process of thermal cycles. There are 7 figures and 5 Soviet references.

Card 3/4

Investigation of tne Sintering of Nickel, Copper, and Molybdenum by the Dilatometric Method SOV/20-124-6-16/55

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute for Metallurgy imeni A. A. Baykov of the Academy of Sciences, USSR)

PRESENTED: November 3, 1958, by I. P. Bardin, Academician

SUBMITTED: October 22, 1958

Card 4/4

18.6200

69026

AUTHOR: Mints, R. S.

S/078/60/005/04/023/040
B004/B016

TITLE: Investigation of the Kinetics of Sintering Metal Powders

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 4, pp 908 - 913 (USSR)

ABSTRACT: The investigation of the sintering of powders of nickel, titanium, copper, and molybdenum was made in a special vacuum dilatometer. The sample was placed in a quartz container melted on one side. Its dilation was transmitted by a quartz tube acting as a pusher to a dial indicator with a micron scale. In this quartz tube there was a Pt-PtRh thermocouple for measuring temperature. The sample was heated electrically by a molybdenum wire wound around the container. The entire system was in an evacuated container. A table presents the dimensions of the metal particles and the analyses. The parallelepipeds 7 x 7 x 15 mm made of nickel were obtained by bilateral pressing with 2,32 t/cm^2. The other powders were exposed to a pressure of 800 kg/cm^2 in rubber cover under liquid. The dilatometer was evacuated up to 1.10^{-3} torr prior to the experiment. The sample was repeatedly heated and cooled. The heating rate of Ti, Mo, and Cu was 50°/min, that of Ni 300°/h. Copper was heated up to 1000°, nickel and

Card 1/3

Investigation of the Kinetics of Sintering Metal Powders

titanium up to 1100°, molybdenum up to 1300°. Figure 1 shows the dilatometric curves of the sintering of Ni in eight cycles of heating and cooling. Figure 2 shows the change of the vacuum. It may be seen from figure 3 that the absolute values of the contraction of the samples become less with each cycle of heating and approach zero asymptotically. Figure 4 gives the dilation curves for Ti, figure 5 for Cu, figure 6 for Mo. In all metals the same course was found to occur: dilation on the first heating, contraction at a certain temperature, continuation of the contraction on cooling and increase in contraction with increasing number of the cycles of heating and cooling. Figure 7 shows the change of the specific weight of titanium on sintering, figures 8, 11 show the microstructure of titanium when sintered in cycles, (heating up to 1100° for 16 hours, repeated ten times), and figures 9, 10 its microstructure on isothermal sintering (for 16 hours at a constant 1100°). By cyclic sintering a much more compact structure, specific weight of 4.25, hardness 250 H_B is obtained, while isothermal sintering only gives a specific weight of 2.27 and hardness of 107 H_B. The

Card 2/3

69026

Investigation of the Kinetics of Sintering Metal Powders

S/078/60/005/04/023/040
B004/B016

repeated heating and cooling of the samples results in continuous solidification. The sintering process can be accelerated by subsequent cycles (sintering cycles) of heating and cooling. There are 11 figures, 1 table, and 8 references, 5 of which are Soviet.

SUBMITTED: January 23, 1959

Card 3/3

MINTS, R.S.; BELYAYEVA, G.F.; MALKOV, Yu.S.

Phase diagram of the system Ni_3AL - Ni_3NB. Zhur.neorg.khim. 7 no.10:2382-2387 O '62. (MIRA 15:10)
(Intermetallic compounds) (Nickel alloys)

MINTS, R.S.; BELYAYEVA, G.F.; MALKOV, Yu.S.

Investigating the interaction between Ni_3Al and Ni_3Nb metallic compounds. Issl.po zharopr.splav. 8:79-84 '62. (MIRA 16:6)
(Intermetallic compounds) (Phase rule and equilibrium)

S/020/62/143/004/018/027
B106/B138

18150

AUTHORS: Mints, R. S., Belyayeva, G. F., and Malkov, Yu. S.

TITLE: Interaction between the metallic compounds Ni_3Al and Ni_3Nb

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 871-874

TEXT: Continuing earlier work, the authors studied this interaction by thermal, metallographic and X-ray structural analyses, and hardness and electrical resistivity measurements. The microstructure was studied in the as-cast state, after quenching from various different temperatures ($1200^{\circ}C$ - 5 hr, $1000^{\circ}C$ - 100 hr, $800^{\circ}C$ - 300 hr, $600^{\circ}C$ - 750 hr), and after slow cooling. 10% oxalic acid was used as the etching medium. Electrical resistivity was measured potentiometrically, hardness on a Vickers tester (10 kg). Nickel-filtered cobalt K_{α} radiation was used for the X-ray phase analyses of powder specimens in a Debye camera. X-ray structural analysis of Ni_3Al - Ni_3Nb alloys was conducted at the same time at the Kiyevskiy institut grazhdanskogo vozdushnogo flota (Kiyev

Card 1/

Interaction between the metallic ...

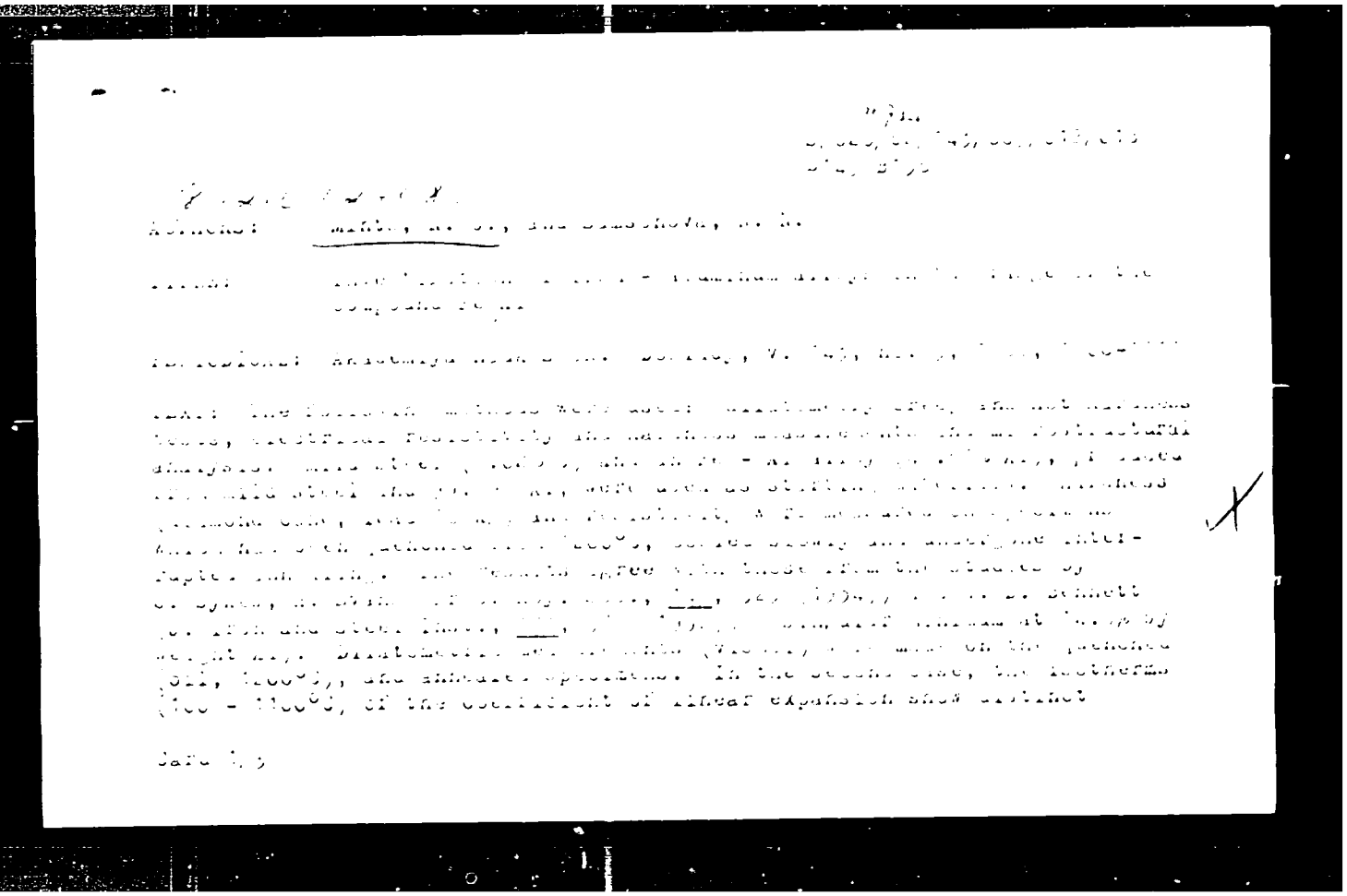
Institute of the Civil Air Fleet) by V. G. Chuprina under the supervision of Professor M. P. Arbuzov. Exact data of these studies has been published separately (M. P. Arbuzov, V. G. Chuprina, Issledovaniya po zharoprochnym splavam, 7, 1961). From the results obtained the phase diagram was constructed and hardness and resistivity were plotted against composition (Fig. 2). There are 2 figures and 1 table. The four most important English-language references are: A. Taylor, R. W. Floyd, J. Inst. Metals, 81, 25 (1952-1953); L. Vegard, Structure Reports, 11, 27 (1947-1948); J. H. Westbrook, J. Metals, Trans. Sec., 9, 7, 898 (1957); O. Kubashewski, A. Schneider, J. Inst. Metals, 75, 403 (1948-1949).

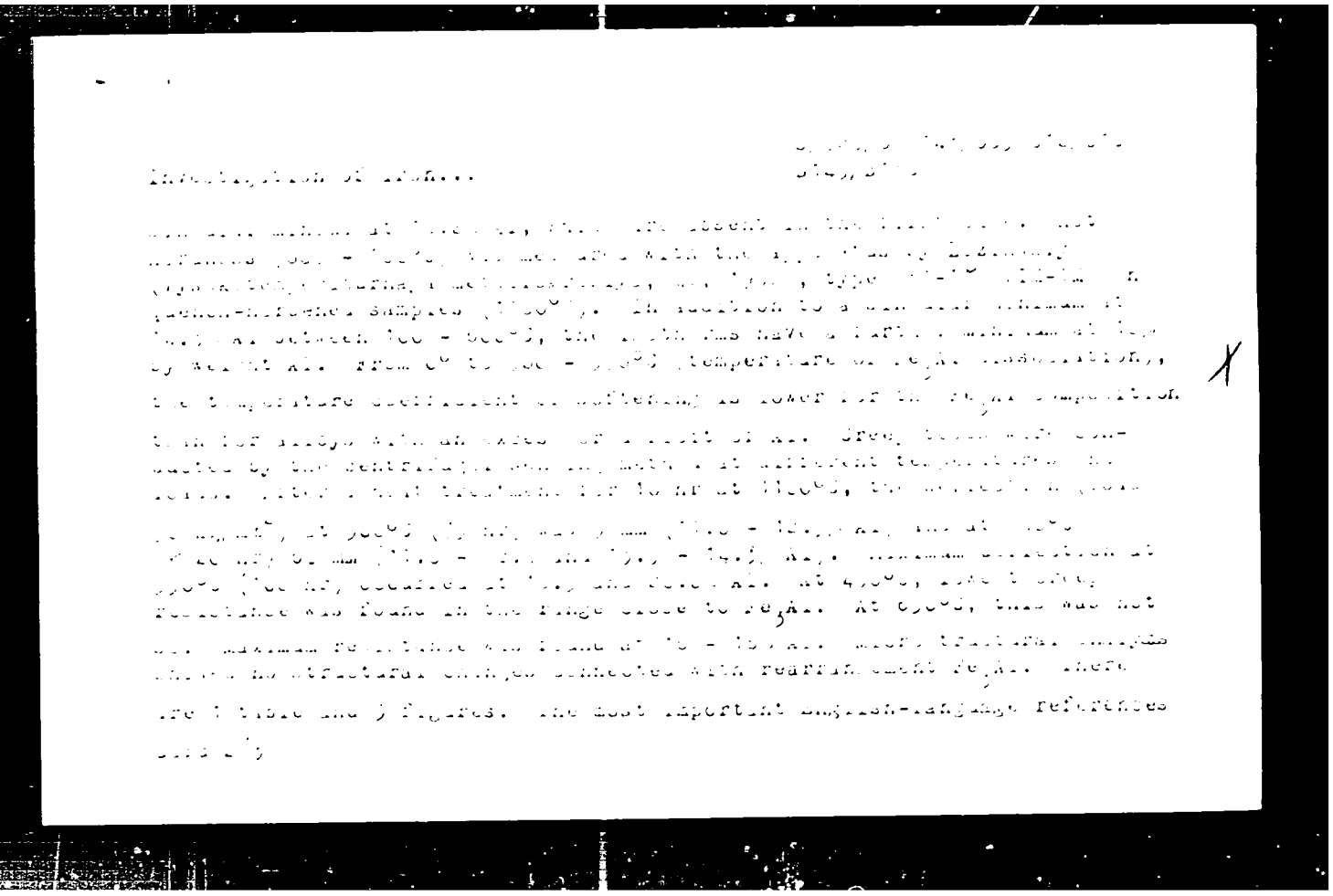
ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)

PRESENTED: October 25, 1961, by I. I. Chernyayev, Academician

SUBMITTED: October 20, 1961

Card 2/4





S/020/62/143/005/012/018
B145/B138

Investigation of Iron...

Refs: J. Dykes, H. Evans, J. Iron and Steel Inst., 131, 225 (1935); W. Feder, K. G. Cann, Phil. Mag., 2, no. 22, 545 (1956); G. Arrez, P. J. Kaufman, Phys. Chem. Solids, 18, no. 4, 307 (1961); A. Lawley, K. W. Cann, Phys. Chem. Solids, 20, nos. 3 - 4, 264 (1961).

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)

PRESENTED: October 29, 1961, by I. I. Chernyayev, Academician

SUBMITTED: October 11, 1961

Card 3/3

MINTS, R.S. (Moskva); BELYAYEVA, G.F. (Moskva); MALKOV, Yu.S. (Moskva)

Investigating the high-temperature strength of alloys in the system Ni_3Al - Ni_3Nb. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.4:151-153 Jl-Ag '63. (MIRA 16:10)

ACCESSION NR: AT4007030 S/2598/63/000/010/0095/0099

AUTHOR: Mints, R. S.; Shelest, A. Ye.; Malkov, Yu. S.

TITLE: Dilatometric study of titanium

SOURCE: AN SSSR. Institut metallurgii, Titan i yego splavy*, no. 10, 1963. Issledovaniya titanovy*kh splavov, 95-99

TOPIC TAGS: thermal expansion, titanium thermal expansion, titanium powder sintering, titanium sintering, titanium isothermal sintering, titanium cyclic sintering, dilatometry, titanium dilatometry

ABSTRACT: Using the universal DTs-4 high-temperature vacuum dilatometer developed at the Institut metallurgii A. A. Baykova (Metallurgical Institute), the authors investigated the coefficient of thermal expansion in the temperature range 400-1100C and the kinetics of the sintering process of commercial grade VT-1 Ti. This device permits temperatures up to 2200C and rapid heating or hardening of the tested specimens (500 degrees/min). The linear thermal expansion was determined directly by an arrow indicator furnished with a timing device. A cross-section of this device is shown. Specimen rods were rolled, subjected to deformation in the temperature range 900-1100C, and hardened in air. The rate of heating or cooling was 30 degrees/minute. Analysis of the microstructure revealed the α' phase in the

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ACCESSION NR: AT4007030

specimen before dilatometric investigation, and Ti after this process. The dilatometric curve shows that α'-β transformation of titanium occurs at 890C, and that the transformation of α-Ti into β-Ti is accompanied by a marked increase in volume, an endothermic effect and evolution of gaseous compounds at temperatures of 850-900C. Values are presented for the coefficients of linear and thermal expansion of wrought Ti in the temperature range 400-1100C. The kinetics of the sintering process were also studied. When a powdered specimen was pressed under a pressure of 800 kg/mm^2, the compact Ti obtained, with a specific gravity of 4.25 and Brinell hardness of 250 kg/mm^2, showed a microstructure qualifying the metal for coldworking. It was proved that isothermic sintering can be replaced with thermocyclic sintering by repeated cyclic heating and cooling. The optimal conditions for cyclic sintering can be determined by the dilatometer. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Institut metallurgii AN SSSR (Institute of Metallurgy, AN SSSR)

SUBMITTED: 00 DATE ACQ: 27Dec63 ENCL: 00

SUB CODE: ML NO REF SOV: 003 OTHER: 001

Card 2/2

L 03101-6 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JH/JD/RM/JG

ACC NR: AP6014119 (A) SOURCE CODE: UR/0370/65/000/006/0132/0136

AUTHORS: Kornilov, I. I. (Moscow); Mints, R. S. (Moscow); Guseva, L. N. (Moscow); Malkov, Yu. S. (Moscow)

ORG: none

TITLE: Interaction of NiAl with niobium

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1965, 132-136

TOPIC TAGS: nickel containing alloy, aluminum containing alloy, niobium containing alloy, alloy phase diagram

ABSTRACT: The phase diagram of the system NiAl-Nb was investigated. The microhardness and microstructure of the various phases and the superconductivity of the compounds NbNiAl and Nb_2NiAl were determined. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that the Nb—Ni—Al system forms two intermetallic compounds, viz: NbNiAl and Nb_2NiAl. The compound Nb_2NiAl becomes superconductive at 4.2K, but the compound NbNiAl does not become superconductive at the temperatures investigated, i.e., down to 1.4K. The superconductivity experiments were performed at the laboratory of the Institute for Physics Problems, AN SSSR (Laboratory of N. Ye. Alekseyevskiy, corresponding member).

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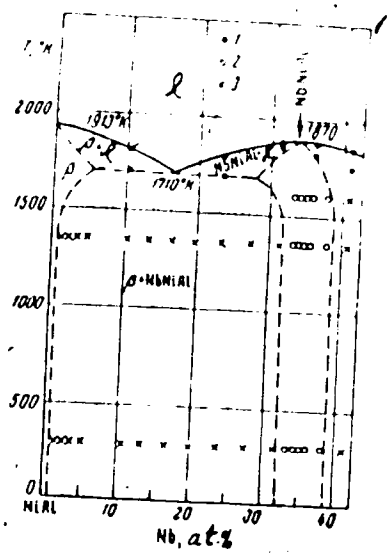
UDC: 669.715

L 43101-66

ACC. NR: AP6014119

Fig. 1. Phase diagram of the system NiAl—Nb (up to 40 at.% Nb): 1 - points obtained by thermal analysis; 2 - one-phase structure; 3 - two-phase structure.



Orig. art. has: 4 tables and 3 figures.

SUB CODE: 11/ SUBM DATE: 30Jul64

Card 2/2 MLP

L 08??3-67 EWT(m)/EWP(t)/ETI
ACC NR: AT6034456 SOURCE CODE: UR/0000/66/000/000/0200/0201

AUTHOR: Mints, R. S.; Tsypkina, Ye. D.; Sipina, M. P.; Malkov, Yu. S.

ORG: none

TITLE: Wrought heat-resistant alloys of Nb-Ni-Al system

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat-resistant alloys). Moscow, Izd-vo Nauka, 1966, 200-201

TOPIC TAGS: heat resistant alloy, niobium, nickel, aluminum, ~~niobium, niobium nickel aluminum alloy, nickel aluminum compound, nickel niobium compound,~~ alloy structure, alloy property

ABSTRACT: The phases of the $Ni-Ni_3Al-Ni_3Nb$ system have been investigated in a search for wrought heat-resistant alloys consisting of γ'-phase strengthened by niobium. Microstructure and x-ray diffraction analyses revealed the existence of three regions in the $Ni-Ni_3Al-Ni_3Nb$ system at niobium contents of up to 20%: a single-phase region of a nickel-base γ-phase, another single phase region of Ni_3Al, and a two-phase γ + γ region. The most heat-resistant ternary alloys are located in the two-phase region. These alloys have a uniform, finely dispersed microstructure. One such alloy had a tensile strength of 106—110 kg/mm^2,

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L 08423-67
ACC NR: AT6034456

an elongation of 10—20%, a reduction of area of 18—30%, and an impact strength of 6—12 mkg/cm^2. In view of high characteristics of ductility, some additional alloying can be used to increase strength.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 007/ ATD PRESS: 5103

Card 2/2 ls

VASIL'YEV, B.F.; KOSTYUKOVSKIY, M.G.; MINTS, Sh.I.; TEL'NOV, B.G.

Use of precast reinforced concrete beams and trussed girders in roof constructions of machine-tractor station repair shops. Stroi.prom. 32 no.4:14-18 Ap '54. (MLRA 7:5)

1. Giprotis (for Mints). 2. Stroitel'stvo Mytishchinskoy MTS (for Tel'nov). (Girders) (Precast concrete construction)

MINTS, Sh. I.

KOSTYUKOVSKIY, M.G., inzhener; MINTS, Sh.I., inzhener.

Use of "Giprotis" large-panel floor slabs in industrial buildings. (MLRA 7:6)
Stroi.prom. 32 no.5:14-17 My '54.

1. Giprotis. (Floors, Concrete)

VASIL'YEV, B.F., inzhener; KOSTYUKOVSKIY, M.G., inzhener; MINTS, S.I., inzhener

Reinforced concrete ribbed panels for beamless floors of industrial buildings developed by GIPROTIS. Rats. i izobr. predl. v stroi. no.81:5-7 '54. (MLRA 8:6)
(Floors, Concrete)

VASIL'YEV, B.F., inzhener; MINTS, S.I., inzhener

Trussed girders developed by GIPROTIS. Rats. i izobr. predl. v stroi. no.81:26-27 '54. (MLRA 8:6)
(Girders) (Concrete construction)

MINTS, Sh.I., kandidat tekhnicheskikh nauk.

Prestressed reinforced concrete girders for use in roofs of industrial buildings. Bet.i zhel.-bet. no.10:351-353 O '56.(MLRA 9:11)
(Girders) (Prestressed concrete)

OSTROVSKIY, M.Ye., arkhitektor; MINTS, Sh.I., inzh.

Unification of the space planning and design decisions for crushing and grading plants. Stroi.prom. 35 no.10:27-31 O '57. (MIRA 10:10)

(Mill and factory building)

SOV/97-58-10-16/17

AUTHOR: Mints, Sh.I., Candidate of Technical Sciences

TITLE: Formation of Openings in Large-Panel Reinforced Concrete Floor Slabs for Industrial Buildings (Ustroystvo proyemov v krupnopanel'nykh zhelezobetonnykh plitakh pokrytiy proizvodstvennykh zdaniy)

PERIODICAL: Beton i zhelezobeton, 1958, Nr 10, pp 397-399 (USSR)

ABSTRACT: Giprotis was responsible for the formation of hollows in the following slabs: 1.5 x 6 m, complying with GOST 7740-55 and TCH 52-56/MSPMKhP, and 3 x 6 m, complying with TCH 51-56/MSPMKhP. Figs 1 and 2 show the position of the hollow in slabs GOST 7740-55 and TCH 52-56/MSPMKhP, respectively. Tables 1, 2 and 3 give values for the load-bearing capacity of slabs of varying size made to various norms. Figs 3 and 4 show the strengthening of the perimeter of slabs of 1.5 x 6 m and 3 x 6 m, respectively.

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SOV/97-58-10-16/17

Formation of Openings in Large-Panel Reinforced Concrete Floor Slabs for Industrial Buildings

A formula for calculating the equivalent for loading of a slab is given.
There are 4 figures and 3 tables.

Card 2/2

VASIL'YEV, B.F., insh.; KOSTYUKOVSKIY, M.G., insh.; MINTS, Sh.I., kand. tekhn.nauk

Precast reinforced concrete covering elements for one-story industrial buildings. Stroitel'stvo no.11:24-33 N '59. (MIRA 13:2)

(Precast concrete construction)
(Factories--Design and construction)

VASIL'YEV, B.F., inzh.; MINTS, Sh.I., kand.tekhn.nauk; BOGATKIN, I.L., inzh.

On an article by A.IA.Brodskii, Candidate of the Technical Sciences. Prom. stroi. 40 no.8:46-48 Ag '63. (MIRA 16:8)
(Welding) (Brodskii, A.IA.)

MINTS, S.M.

ZAYKO, M.M.; MINTS, S.M.

Efferent properties of the trigeminal nerve in rabbits. Medych. zhur. 23 no.4:11-16 '53. (MLRA 8:2)

1. Odes'kiy medichniy institut im. M.I.Pirogova, kafedra patologichnoi fiziologii.
(TRIGEMINAL NERVE)

FD-2275

USSR/Biology - Physiology

Card 1/1 Pub 33-6/18

Author : Zayko, N. N. and Mints, S. M.

Title : On central regulation of intra-occular pressure

Periodical : Fiziol. zhur. 40, 572-578, Sep-Oct 1954

Abstract : Investigated the tonus of the eye during various states of the cerebral cortex existing during and after an epileptic convulsive seizure induced in cats and rabbits by intravenous injection of pyramidon or injection of camphorated oil into the peritoneal cavity. Determined intra-ocular pressure in above animals during and immediately after an epileptic seizure under the following conditions: (1) with undisturbed innervation of the eye; (2) with unilateral transection of the oculomotor nerve or excision of the cervical sympathetic ganglion; (3) with curarization. Also determined intra-ocular pressure simultaneously with blood pressure at time of seizure. Graphs. Twelve references, 10 of these USSR (7 since 1940).

Institution: Department of Pathologic Physiology of the Odessa Medical Institute

Submitted : January 4, 1954

Mints, S.M.

2

3908. Reflex regulation of intra-ocular pressure. M. M. Zaiko and S. M. Mints *Fiziol. Zh. Kiev*, 1955, 1, 78—85; *Referat. Zh. Biol.*, 1956, Abstr. No. 78851.—In rabbits and cats in the min. following trauma of the trigeminal nerve there arose a hypertonia of the eyes, quickly replaced by a fall of tone below the initial level; the hypertonia occurred even after exclusion of the efferent innervation. Subconjunctival injection of dimedrol prevented the rise of tonus, which confirms the efferent properties of the trigeminal nerve, and indicates the cholinergic nature of the phenomenon. Section of the oculomotor nerve, and desympathisation, did not change the height of the tonus, but made it unstable. During the stimulation of the c.n.s. at the height of an epileptic fit, and also in animals immobilised by curare, the tonus of the eye was raised; in the condition of inhibition following the attack it fell below the initial level. The experiments show that in the regulation of intra-ocular pressure the innervated structures of the eye and the higher parts of the c.n.s. play a part. (Russian)

T. R. Parsons

Odessa Med Inst. Chair Pathol Physiol.

MINTS, S.M. (Odessa)

Role of the nervous system in the regulation of intraocular pressure. Usp.sovr.biol. 42 no.1:51-61 Jl-Ag '56. (MLRA 9:10)
(NERVOUS SYSTEM) (EYE) (GLAUCOMA)

MINTS, S.M., RUSSKVA, N.V.

Changes in intraocular and arterial pressure following injury to the trigeminal nerve. Oft.zhur. 13 no.3:181-185 '58 (MIRA 11:6)

1. Iz kafedry patologicheskoy fiziologii Odesskogo meditsinskogo instituta im. N.I. Pirogova.
(TRIGEMINAL NERVE--WOUNDS AND INJURIES)
(BLOOD PRESSURE)
(EYE)

MINTS, S.M.

Experimental data of the effect of X-ray irradiation on intraocular pressure. Vest. rent. i rad. 33 no.6:77-79 N-O '58. (MIRA 12:1)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. N.N. Zayko) i kafedry rentgenologii i radiologii (zav. - prof. Ye. D. Dubovyy) Odesskogo meditsinskogo instituta (dir. - prof. I. Ya. Deyneka).

(ROENTGEN RAYS, eff.
on intraocular pressure in cats & rabbits (Rus))
(EYE, eff. of radiations on
x-ray, on intraocular pressure in cats & rabbits (Rus))

MINTS, S.M.

Effect of autonomic stimuli on ocular tonus [with summary in English]. Fiziol.zhur. 44 no.10:938-945 O '58 (MIRA 12:1)

1. From the department of pathologic physiology, N.I. Pirogoff Medical Institute, Odessa.
(INTRAOCULAR PRESSURE, effect of drugs on, autonomic drugs (Rus))
(AUTONOMICS DRUGS, effects on intraocular pressure (Rus))

MENTS, S. M., (oc Med Sci diss) -- "Experimental data on regulation of intra-ocular pressure". Khar'kov, 1960. 22 pp (Khar'kov State Med Inst, 200 copies (KL, No 11, 1960, 127)

ZAYKO, N.N.; MINTS, S.M.

Effect of ultrasonic waves on intraocular pressure and permeability of the vessels of the eye. Biul eksp. biol. i med. 54 no.12:32-36 D'62. (MIRA16:6)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. N.N Zayko) Odesskogo meditsinskogo instituta imeni N.I.Pirogova. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(ULTRASONIC, WAVES—PHYSIOLOGICAL EFFECT)
(INTRAOCULAR PRESSURE) (EYE—BLOOD SUPPLY)

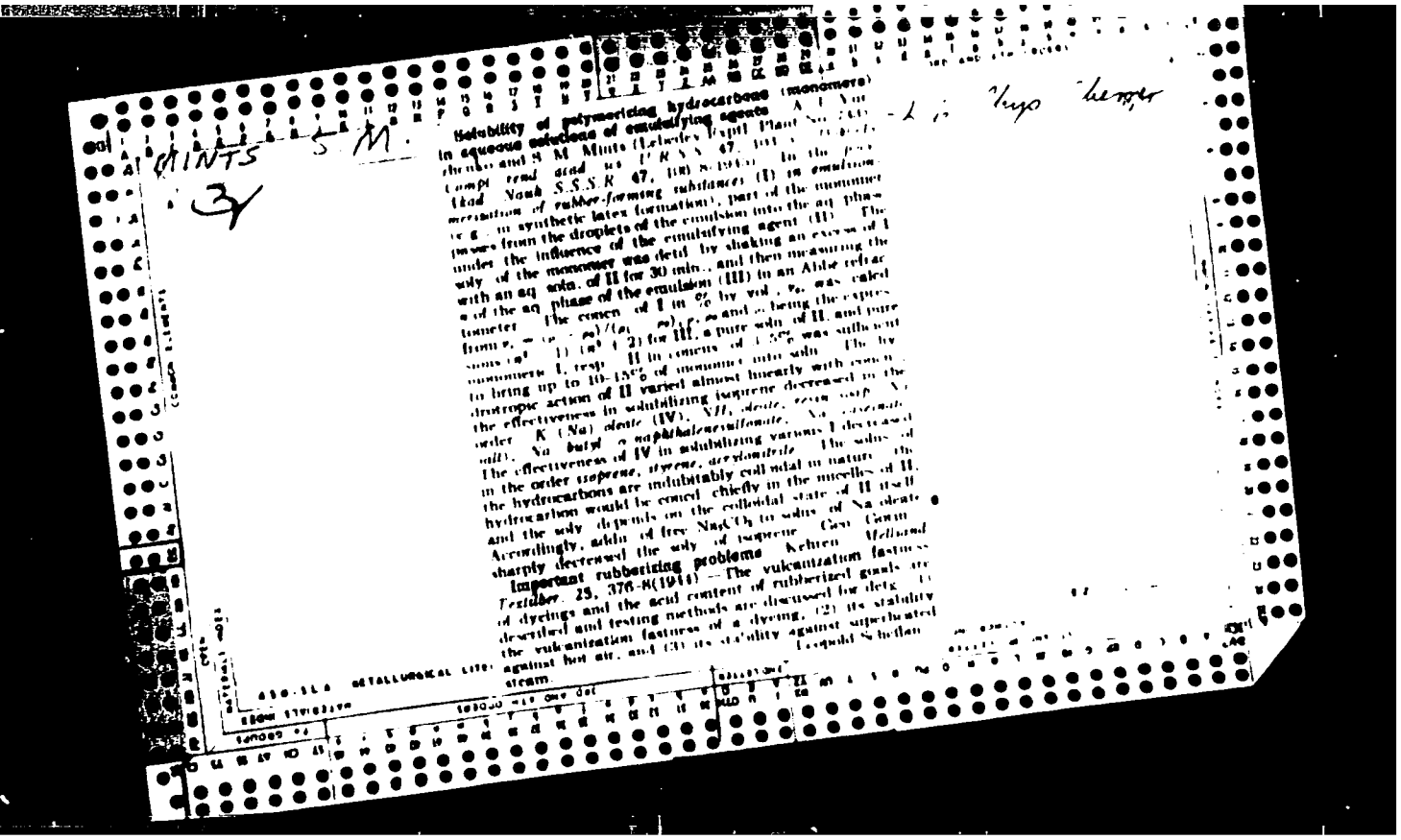
MINTS, S.M., doktor med. nauk (Odessa)

Conference in memory of V.V. Podrysotskii; on the 50th anniversary of his death. Vrach. delo no.10:154 O '63. (MIRA 17:2)

MINTS, S.V.

Intraocular pressure in sensitization and anaphylaxis.
Pat. fiziol. i eksp. terap. [illegible] (MIRA [illegible]

1. Kafedra patologicheskoy fiziologii [illegible] = doktor med. nauk
S.V. Mints) Ivano-Frankovskogo meditsinskogo instituta. Submitted
March [illegible], [illegible].



Solubility of polymerizing hydrocarbons (monomers) in aqueous solutions of emulsifying agents A. I. Nu[illegible] and S. M. Mints (Leningrad Textile Ind. Plant No. [illegible]). *Compt. rend. acad. sci. U.R.S.S.* 47, [illegible] (1945). — In the process of emulsion polymerization of rubber-forming substances (I) in emulsions (e.g., in synthetic latex formation), part of the monomer passes from the droplets of the emulsion into the aq. phase under the influence of the emulsifying agent (II). The solv. of the monomer was detd. by shaking an excess of I with an aq. soln. of II for 30 min., and then measuring the refractive index of the aq. phase of the emulsion (III) in an Abbe refractometer. The concn. of I in % by vol., x, was calcd. from x = [illegible] for III, a pure soln. of II, and pure monomers I, resp. II in concns. of 1-5% was still not enough to bring up to 10-15% of monomer into soln. The hydrotropic action of II varied almost linearly with concn. the effectiveness in solubilizing isoprene decreased in the order K (Na) oleate (IV), VII, oleate, resin soap, Na salt). Na *butyl* α-*naphthalenesulfonate*. No [illegible] The effectiveness of IV in solubilizing various hydrocarbons in the order *isoprene, styrene, acrylonitrile*. The solns. of the hydrocarbons are indubitably colloidal in nature, the hydrocarbon would be caused chiefly in the micelles of II, and the soly. depends on the colloidal state of II itself. Accordingly, addn. of free Na_2CO_3 to solns. of Na oleate sharply decreased the soly. of isoprene. Geo. Gavin

Important rubberizing problems Kehren Melland *Textilber.* 25, 376-8(1944). — The vulcanization fastness of dyeings and the acid content of rubberized goods are described and testing methods are discussed for dets. (1) the vulcanization fastness of a dyeing, (2) its stability against hot air, and (3) its stability against superheated steam.

[illegible] Sheehan

YURZHENKO, A. and MINTS, S. [M]

Mbr., Lebedev Institute of Synthetic Rubber - 1947

"Dispersion of Synthetic Latexes at Different Stages of Their Formation," Dok. AN, 55, No. 4, 1947

POLAND

MINZ, S. (Warsaw)

S. Minz, author of "Influence on structural changes of HNO_3 molecules on the cathodic polarization of a platinum electrode in nitric acid solutions," presented at the 4th Electrochemical Conference, Moscow, 1-6 Oct. 1956.

SOURCE: Program to the 4th International Conference on Electrochemistry, Moscow, 1-6 Oct. 1956, Unclassified.

SOV/13-5-5-2/...

AUTHORS: Lebedev, A.V.,
Fermor, ...,
Mints, S.M.,
~~Zakharchenko~~, P.I.,

TITLE: The Vulcanisation of Synthetic Latexes (V... sinteticheskikh lateksov)

PERIODICAL: Kauchuk i Rezina, 1958, Nr 5, pp 3-9 (USSR)

ABSTRACT: The method and conditions for the sulphur-vulcanisation of some synthetic latexes were investigated, as well as the characteristics of laminae prepared from the latexes. The latexes were vulcanised by intensive gamma radiation without adding chemical vulcanisation agents. It was found that the strength of laminae made from these latexes depends on the polarity of the polymer. The latexes tested included 1,3-butadiene-styrene rubbers latexes SKS-30A, SKS-30P ... also the 1,3-butadiene-nitrile rubber SKN-40: the composition and ... are given in Table 1. Experimental ... polymerisation ... were carried out in the radiation ... of the ... Institute im. L.Ya. Karpov ... Physico-Chemical Institute ... with an activity of ... Co^{60} as a source of radiation with an activity ...

Card 1/4

SOV/3 [illegible]

The Vulcanisation [illegible] Latices

[illegible], 1400 and 20,000 Curie. The samples were [illegible] in 15 - 35 min[illegible] and irradiation [illegible] (intensity = 0.14 - 1.3 [illegible] rontgen units/hr). No coagulation of the latex could be observed. Laminae were prepared from the vulcanised latex using [illegible] fixing agents. Comparative tests were carried out under identical conditions with laminae prepared from latex [illegible] The tensile strength and [illegible] laminae were determined. The degree of vulcanisation was evaluated [illegible] their swelling in benzene was used as solvent [illegible] swelling agent for 1,3-butadiene-styrene rubber and for chemical testing (Revultex obtained from Revertex Limited) also [illegible] for 1,3-butadiene-nitrile rubber. The latices were treated with methyl alcohol saturated with [illegible] phenyl-3-naphthylamine to extract the antioxidants. The physical and mechanical properties of the [illegible] are listed in Table 2 and for comparative [illegible]

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